

IN THE CLAIMS:

Claims 1, and 4 have been amended, and new claim 5 has been added as follows:

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1. (Currently Amended) An audio apparatus for use in a negative impedance drive of a loudspeaker having an internal impedance to perform a desired amplitude-frequency characteristic, comprising:

an amplifier device that drives the loudspeaker with a driving voltage;

a providing section, that provides a control voltage, ~~corresponding to~~ having as its sole input a level of the driving voltage of the loudspeaker; and

B a feedback device having a variable feedback gain that performs a positive feedback of a signal corresponding to the driving voltage of the loudspeaker to an input of the amplifier device thereby causing the amplifier device to generate a negative impedance effective to negate the internal impedance of the loudspeaker, the feedback device comprising a voltage-controlled amplifier having the variable feedback gain and receiving the signal corresponding to the driving voltage, the voltage-controlled amplifier being responsive to the control voltage from the providing section and the signal corresponding to the driving voltage for generating an output signal and positively feeding back the output signal to the input of the amplifier device to thereby perform the positive feedback, wherein

the voltage-controlled amplifier decreases the variable feedback gain as a level of the control voltage increases, thereby adjusting the amplitude-frequency characteristic of the amplifier device, only if the level of the control voltage exceeds a

critical level, and otherwise keeps the variable feedback gain constant as long as the level of the control voltage remains under the critical level.

2. (Previously presented) The audio apparatus according to claim 1, wherein the providing section comprises a detector that detects the signal corresponding to the driving voltage in terms of a load voltage of the loudspeaker, and a converter that converts the detected load voltage to the control voltage.

3. (Canceled)

4. (Currently Amended) ~~The audio apparatus according to claim 1, wherein the voltage-controlled amplifier decreases the variable feedback gain as the level of the control voltage increases.~~ An audio apparatus for use in a negative impedance drive of a loudspeaker having an internal impedance to perform a desired amplitude-frequency characteristic, comprising:

an amplifier device that drives the loudspeaker with a driving voltage;

a providing section that provides a control voltage corresponding to a level of the driving voltage of the loudspeaker; and

a feedback device having a variable feedback gain that performs a positive feedback of a signal corresponding to the driving voltage of the loudspeaker to an input of the amplifier device thereby causing the amplifier device to generate a negative impedance effective to negate the internal impedance of the loudspeaker, the feedback device comprising a voltage-controlled amplifier having the variable feedback gain and receiving the signal corresponding to the driving voltage, the voltage-controlled amplifier being responsive to the control voltage from the providing section and the signal corresponding to the driving voltage for generating an output signal and positively

feeding back the output signal to the input of the amplifier device to thereby perform the positive feedback, wherein

the voltage-controlled amplifier decreases the variable feedback gain as a level of the control voltage increases, thereby adjusting the amplitude-frequency characteristic of the amplifier device so as to suppress the amplitude-frequency characteristic of the amplifier device, thereby preventing an output of the amplifier device from clipping, only if the level of the control voltage exceeds a critical level, and otherwise keeps the variable feedback gain constant as long as the level of the control voltage remains under the critical level.

5. (New) The audio apparatus according to claim 4, wherein the providing section comprises a detector that detects the signal corresponding to the driving voltage in terms of a load voltage of the loudspeaker, and a converter that converts the detected load voltage to the control voltage.

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